



87075JLT  
Customer No. 01333

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Sharon M. Simpson

PHOTOTHERMOGRAPHIC  
MATERIALS WITH IMPROVED  
NATURAL AGE KEEPING

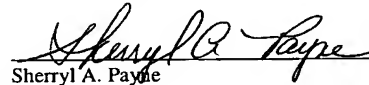
Serial No. 10/826,780

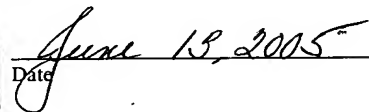
Filed 16 April 2004

Group Art Unit: 1752

Examiner: LETSCHER, Geraldine

I hereby certify that this correspondence is being deposited today with the United States Postal Service as first class mail in an envelope addressed to Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

  
Sherryl A. Payle

  
Date

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA. 22313-1450

Sir:

**DECLARATION UNDER 37 C.F.R. 1.131**

I, Sharon M. Simpson hereby say and declare that:

(1) I am the inventor of the invention described and claimed in the present patent application identified above.

(2) Since January 1999 I have been employed by Eastman Kodak Company at its facility located in Oakdale, Minnesota.

(3) During my employment with Eastman Kodak Company, I have have been and am currently involved in the research and development of high-speed photothermographic materials, components used therein, and methods of imaging these materials to provide visible images.

(4) The presently claimed invention was conceived and reduced to practice in the United States of America prior to November 17, 2003, the priority date of copending Application No. 10/715,199 that has been cited as prior art in the recent Office Action received from the USPTO.

(5) Prior to November 17, 2003, I conceived of and reduced to practice:

(I) An organic solvent-based photothermographic material comprising a support having thereon, one or more imaging layers comprising a hydrophobic binder and:

- a. a photosensitive silver halide,
- b. in reactive association with the photosensitive silver halide, a non-photosensitive source of reducible silver ions comprising a silver carboxylate,
- c. a reducing agent for the reducible silver ions comprising a phenolic developer,
- d. an aliphatic or non-aromatic carbocyclic polycarboxylic acid that is present in an amount of from about 0.0004 to about 0.01 mol/mol of total silver (or from about 0.0015 to about 0.0375 g/m<sup>2</sup>), and
- e. optionally, an X-radiation-sensitive phosphor,

(II) An organic solvent-based X-radiation sensitive photothermographic material that comprises a support having on one side thereof, a photothermographic imaging layer comprising a hydrophobic binder and in reactive association:

- a. a photosensitive silver bromide or silver iodide, or mixture thereof, that has been chemically sensitized with a sulfur-containing chemical sensitizing compound, a tellurium-containing chemical sensitizing compound, or a gold(III)-containing chemical sensitizing compound, or mixtures of any of these chemical sensitizing agents,
- b. in reactive association with the photosensitive silver halide, a non-photosensitive source of reducible silver ions that comprises silver behenate,
- c. a reducing agent for the reducible silver ions that comprises a hindered phenol,
- d. one or more X-radiation-sensitive phosphors that are present in a total amount of from about 0.1 to about 20 mole per mole of total silver, the amount of total silver being from about 0.01 to about 0.05 mol/m<sup>2</sup>, and

e. one or more of citric acid, tartaric acid, maleic acid, fumaric acid, citraconic acid, mesaconic acid, tricarballic acid, malonic acid, 1,2,3,4-butanetetracarboxylic acid, 1,2,3,4-cyclopentanetetracarboxylic acid, 1,3,5-cyclohexanetricarboxylic acid, and 1,2-cyclohexanedicarboxylic acid in an amount of from about 0.001 to about 0.004 mol/mol of total silver (or from about 0.004 to about 0.09 g/m<sup>2</sup>), and

(III) A method for forming a visible image comprising:

- A) imagewise exposing any of the photothermographic materials of the present invention to radiation to form a latent image, and
- B) simultaneously or sequentially, heating the exposed photothermographic material to develop the latent image into a visible image.

(6) Exhibit A is a true electrophotographic copy of notebook pages 181, 182, and 184 in notebook CC0251 assigned to Sharon M. Simpson that are dated prior to November 17, 2003 and that describe a photothermographic composition and material as claimed in the present application, except that irrelevant information has been obscured.

(7) In particular, notebook page 181 of Exhibit A describes a photothermographic composition as having a binder identified as “B79” a homogenate containing a photosensitive silver halide and non-photosensitive source of reducible silver ions identified as “CZ5XX-S 2321 Homogenate” and a reducing agent for the reducible silver ions identified as “Permanox.” Notebook page 182 describes citric acid, a polycarboxylic acid identified as CA. Notebook page 184 describes the sensitometry of this sample after coating, drying, and imaging. These pages represent Example 1 of the patent application.

These features have been highlighted in yellow on pages 181, 182, and 184 for the Examiner’s convenience.

(8) Exhibit B is a true electrophotographic copy of notebook pages 177-179 in notebook CC0251 assigned to Sharon M. Simpson that are dated prior to November 17, 2003 and that describe a photothermographic composition and material as claimed in the present application, except that irrelevant information has been obscured.

(9) In particular, notebook page 177 of Exhibit B describes a photothermographic composition as having a binder identified as "B79" a homogenate containing a photosensitive silver halide and non-photosensitive source of reducible silver ions identified as "CZ5XX-S 2303 Homogenate" and a reducing agent for the reducible silver ions identified as "Permanox." Notebook page 178 describes citric acid, a polycarboxylic acid identified as CA and the optional X-radiation-sensitive phosphor identified as YSrTaO<sub>4</sub>. Notebook page 179 describes the sensitometry of this sample after coating, drying, and imaging. These pages represent Example 3 of the patent application.

These features have been highlighted in yellow on pages 177-179 for the Examiner's convenience.

(10) Thus, Exhibits A and B demonstrate that conception and reduction to practice of the presently claimed invention were made prior to November 17, 2003.

(11) All statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true, and that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

6/9/05

Date

Sharon M. Simpson

Sharon M. Simpson

EASTMAN KODAK COMPANY

Experiment Name: Dental

## Description:

To compare ZaV sensitization using MEOH or MEK/MEOH solvent and mix time of solution before addition to Ag homogenate (2 min. vs. 30 min.) To compare B79 resin to B18/B16 resin effects on sensitization. To compare 2%I emulsion at 0.20um grain size (2335) with standard 6% I 0.14um emulsion soap 2321 made on (2081 emulsion). Fisher solvent was used for all solution adds. Citric acid was added to the Ag layer without phopshor to follow RSK. *Smg*

APR7.xls

Red 1A Filter	A	60C	B	60C	C	60C	D	60C	E	60C	Mix Time	Temp	R.P.M.	
CZ50X - S	2321	0.4g/m	2321	0.4g/m	2321	0.4g/m	2321	0.4g/m	2335					
Homogenate	S/Au	44C	S/Au	44C	S/Au	44C	S/Au	44C	S/Au		min.	(F)		New Lot of MEK from Fisher
	196.1g	6%	196.1g	6%	196.1g	6%	196.1g	6%	197.2g	2%				
	23.61%		23.61%		23.61%		23.61%		23.49%					
MEK	-16.5g	67F	-16.5g	67F	-16.5g	67F	-16.5g	67F	-17.5g	67F	15		500	
	Fisher		Fisher		Fisher		Fisher		Fisher					
CC74 Lot ZaV-7	23622													
331g/m	A		B		C		C		C					A
	8.2ml		8.2ml		8.2ml		8.2ml		8.2ml		40			0.0508g KSOC74/
	Solution	Mix 2 min	Mix 30min		Mix 30min		Mix 30min		Mix 30min					4.32g Fisher MEK/4.32g MEOH
	2.59%													C
														0.1403g 74/11.93g MEK/11.93g MEOH
														B
														0.0508g KSOC74/8.64g MEOH
ZnBr2 225.19gm	1.50ml	0.169g	1.50ml		1.50ml		1.50ml		1.50ml		30			1.014g ZnBr2
		1.13g												7.14g MEOH
PhP	2.00ml	0.20g	2.00ml		2.00ml		2.00ml		2.00ml		60			1.20g PhP/9.48g
MeOH		1.58g												MeOH
														STD Lot Today
Cool	cool		cool		cool		cool		cool		10	61		
Au(10)pyrClC12	4.8ml		4.8ml		4.8ml		4.8ml		4.8ml		60			0.0052g lot G
591gm														50.0g MeOH
CBBA	1.42g		1.42g		1.42g		1.42g		1.42g		15			
Cool	cool		cool		cool		cool		cool		20	50		
B79	20g		20g		20g				20g		30		900	
BMI 8BL16							12g/8g							
	A	4.0g							A					
BSP	2.14g								12.84g BSP					
MEK	24.2g		26.34g		26.34g		26.34g		26.34g		10			145.2g MEK
	26.34g													
THDI	pass	0.63g	pass		pass		pass		pass					5.04g THDI
MEK		1.50g												12.00g MEK
PHZ 130.14gm	pass	1.00g	pass		pass		pass		pass					8.00g PHZ
MEK		5.00g												40.0g MEK
Total Wt.														
THDI+PHZ	8.13g		8.13g		8.13g		8.13g		8.13g		15			B
THDI+PHZ														12.78g THDI Solution
														+ 36.0g PHZ
TCPA + 4-MPA	6.8g		6.8g		6.8g		6.8g		6.8g		15			15.28g TCPA Solution+
Solution														29.93g 4-MPA
TCPA		0.35g												2.80g TCPA/
MEK		2.00g												16.00g MEK
Total Wt.	pass		pass		pass		pass		pass					
4-MPA		0.45g												3.60g 4-MPA/
MeOH		0.50g												4.00g MeOH/
MEK		3.50g												28.0g MEK
Total Wt.	pass		pass		pass		pass		pass					
Permance 368.56g/mole	10.6g		10.6g		10.6g		10.6g		10.6g		15			

Signature

The foregoing disclosed to me on

20

Witness

Exhibit A

Date \_\_\_\_\_

Problem: \_\_\_\_\_

Cent. from P 181

April 7 Coating

Ti

SMS

Coating						
Code	Ag	Gap Ag	TC Gap alone	TC+Ag Gap		AT 190F/16rev.
1	A	3.8	2.2	6	ATC1	
2	A	3.8	2.2	6	ATC1	
3	B	3.8	2.2	6	ATC1	
4	B	3.8	2	5.8	ATC	
5	C	3.8	2	5.8	ATC	
6	C	3.8	2	5.8	ATC	25g Ag + 0.5ml CA Mix 5 min.
7	C	3.8	2	5.8	ATC	25g Ag + 0.3ml CA Mix 5 min.
8	C	3.8	2.2	6	ATC1	
9	C	6.5	2.2	8.7	ATC1	25g Ag + 18.2g YSrTaO4 Mix 5 min.
10	D	3.8	2.2	6	ATC1	
11	D	6.5	2.2	8.7	ATC1	25g Ag + 18.2g YSrTaO4 Mix 5 min.
12	E	3.8	2.2	6	ATC1	
13	E	6.5	2.2	8.7	ATC1	25g Ag + 18.2g YSrTaO4 Mix 5 min.
Batch						
MEK	1836g					0.035g Citric Acid/3.5g MEOH
A21	5.758g					
CAB171-15S	149.14g					1.50g BSP/ 28.41g MEK
Total Wt.	2000g					ATC1
		ATC		ATC		210g
Batch		418g	313.5g	BSP Solution		21.0ml
BTZ		3.34g	2.51g			
P382(72.0%)		0.882g	0.662g			
CY27		0.242g	0.182g			
		Quart Jar				

Shawn M. Soren

Takao Ishida

ENT  
cont from pg 183

'ate \_\_\_\_\_

problem

12/1/2011

MS

Coated 47/63 and processed 1 day later																	
2331/75 min. 1.4um 6% AOX 0.40g PM/Mode AOX 3.16um% AOX AOX add at SOC at 23.6% solids																	
S-Aux 110.015 Lb 17.4oz for 654 S																	
Aux 13 added after 10 min and before CBBA add																	
Zn B2 before PhIP																	
1.0% P-382 used																	
Kumar batch used at 1.2%																	
BSP in TC diluted at 2.00 ml/20ml TC																	
Toner Batch Method/ Performance at end of mix																	
BSP added as a 4.00% solution separate from the Toners																	
B79 only																	
5040-03-03 VS-TeO4 4 um 18.5/25.0% Aq																	
Dry at 180F																	
40 min mix of ZnV used																	
Filterer solvent used for add solutions																	
2335 Soap with 0.2 um emulsion and 2% iodine																	
KeyID	Soap	Mix Time	Solution	Resin	Phosphor	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC
	used	Za V-7	Bovient	used	used	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC
1	2321 2min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
2	2321 2min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
3	2321 30 min	MEOH/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
4	2321 30min	MEOH/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
5	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
6	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
7	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
8	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
9	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
10	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
11	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
12	2335 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
13	2335 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
3 month aging																	
1	2321 2min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
2	2321 2min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
3	2321 30 min	MEOH/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
4	2321 30min	MEOH/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
5	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
6	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
7	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
8	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
9	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
10	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
11	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
12	2335 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
13	2335 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Change in Solub																	
1	2321 2min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
2	2321 2min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
3	2321 30 min	MEOH/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
4	2321 30min	MEOH/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
5	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
6	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
7	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
8	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
9	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
10	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
11	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
12	2335 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
13	2335 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Change in Solub																	
1	2321 2min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
2	2321 2min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
3	2321 30 min	MEOH/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
4	2321 30min	MEOH/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
5	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
6	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
7	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
8	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
9	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
10	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
11	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
12	2335 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
13	2335 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Change in Solub																	
1	2321 2min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
2	2321 2min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
3	2321 30 min	MEOH/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
4	2321 30min	MEOH/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
5	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
6	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
7	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
8	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
9	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
10	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
11	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
12	2335 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
13	2335 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Change in Solub																	
1	2321 2min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
2	2321 2min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
3	2321 30 min	MEOH/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
4	2321 30min	MEOH/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
5	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
6	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
7	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
8	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
9	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
10	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
11	2321 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
12	2335 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
13	2335 30min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Change in Solub																	
1	2321 2min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
2	2321 2min	MEK/MEO/B79				3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
3	2321 30 min	MEOH/B79				3.8	3.8	3.8	3.8								

Signature

Sharon M Lopez

**Witness**

Fakhrul Isyada

The foregoing disclosed to me on

## EASTMAN KODAK COMPANY

Experiment Name: Dental

Description: To compare substituted diphenyl sulfides (ZaV-8 and ZaV-10) with the control ZaV-7. To compare the effects of MeOH or MEOH/MEK solvent for solution make of the ZaV compounds. To study the effects of citric acid added to the silver layer containing phosphor for initial sensi and RSK. The mix time of the YSR404 was 5 minutes. The soap 2303 was used as made on containing 2081 emulsion (0.14um grains). RSK was followed.

APR1.85

Red 1A Filter	A	60C	B	60C	C	60C	D	60C	E	Mix Time min.	Temp (F)	R.P.M.	New Lot of MEK from Fisher
CZ5XX - S	2303	0.4g/m	2303	0.4g/m	2303	0.4g/m	2303	0.4g/m	2303				
Homogenate	S/Au	44C	S/Au	44C	S/Au	44C	S/Au	44C	S/Au	6%			
	193.8g	6%	193.8g	6%	193.8g	6%	193.8g	6%	193.8g	6%			
	23.90g	67F	23.90g	67F	23.90g	67F	23.90g	67F	23.90g	67F			
MEK	-14.12g	0.0g	-14.12g	0.0g	-12.52g	0.0g	-11.36g	0.0g	-12.52g	0.0g			
	Flasher		Flasher		Flasher		Flasher		Flasher				
	23622												
CC74 Lot ZaV-7	A	0.0608g ZaV-7/0.84g MEOH							0.0476g 79/1.98g MEK/4.5g MEOH				
331g/m	8.0ml		8.0ml		8.0ml		8.0ml		8.0ml				0.0508g KSCN/4.32g Fisher MEK/4.32g MEOH
	2.53x				1.3x				1.3x				
ZnBr2 225.19g/m	1.50ml	0.169g	1.50ml		1.50ml		1.50ml		1.50ml				1.014g ZnBr2 7.14g MEOH
		1.19g											
PHP	2.00ml	0.20g	2.00ml		2.00ml		2.00ml		2.00ml				1.20g PHP/9.48g MeOH
MeOH		1.58g											STD Lot Today
Cool	cool		cool		cool		cool		cool				
Au(III)pyrCl(C12	4.8ml		4.8ml		4.8ml		4.8ml		4.8ml				0.0052g lot G
591g/m													50.0g MeOH
CBBA	1.42g		1.42g		1.42g		1.42g		1.42g				
Cool	cool		cool		cool		cool		cool				
879	20g		20g		20g		20g		20g				
BSP	A	4.0x											
MEK	2.14g												14.98g BSP
	24.2g												169.4g MEK
	26.34g		26.34g		26.34g		26.34g		26.34g				
THDI	pass	0.63g	pass		pass		pass		pass				5.04g THDI
MEK		1.50g											12.00g MEK
PHZ 130.14g/m	pass	1.00g	pass		pass		pass		pass				8.00g PHZ
MEK		5.00g											40.0g MEK
Total WL													
THDI+PHZ	8.13g		8.13g		8.13g		8.13g		8.13g				12.78g THDI Solution
THDI+PHZ													+ 36.0g PHZ
TCPA + 4-MPA	6.8g		6.8g		6.8g		6.8g		6.8g				15.28g TCPA Solution
Solution													+ 36.0g PHZ
TCPA		0.36g											15.28g TCPA Solution
MEK		2.00g											28.93g 4-MPA
Total WL	pass		pass		pass		pass		pass				2.80g TCPA
													16.00g MEK
4-MPA		0.45g											3.60g 4-MPA
MeOH		0.50g											4.00g MeOH
MEK		3.50g											28.0g MEK
Total WL	pass		pass		pass		pass		pass				
Pelmentar 368.56g/mole	10.6g		10.6g		10.6g		10.6g		10.6g				

Signature

Witness

The foregoing disclosed to me on

Exhibit B



Date \_\_\_\_\_

Problem: \_\_\_\_\_

Cont. from pg 177

Coating						
Code	Ag	Gap Ag	TC Gap alone	TC+Ag Gap		AT 190F/16rev.
1 D		3.8	2.2	6 ATC1		
12 D		3.8	2.2	6 ATC1		
2 A		3.8	2.2	6 ATC1		
3 A		6.5	2.2	8.7 ATC1		25g Ag + 18.2g YSrTaO4 Mix 5 min.
4 B		3.8	2.2	6 ATC1		
5 B		6.5	2.2	8.7 ATC1		25g Ag + 18.2g YSrTaO4 Mix 5 min.
6 B		6.6	2	8.6 ATC		25g Ag + 0.5ml CA + 18.2g YSrTaO4 Mix
7 B		6.5	2	8.5 ATC		25g Ag + 18.2g YSrTaO4 Mix 5 min.
8 C		3.8	2.2	6 ATC1		
9 C		6.5	2.2	8.7 ATC1		25g Ag + 18.2g YSrTaO4 Mix 5 min.
10 C		6.6	2	8.6 ATC		25g Ag + 0.5ml CA + 18.2g YSrTaO4 Mix
11 C		6.5	2	8.5 ATC		25g Ag + 18.2g YSrTaO4 Mix 5 min.
13 E		3.8	2.2	6 ATC1		
14 E		6.5	2.2	8.7 ATC1		25g Ag + 18.2g YSrTaO4 Mix 5 min.
Batch						
MEK	1836g					0.035g Citric Acid/3.5g MEOH
A21	5.758g					1.50g BSP/ 28.41g MEK
CAB171-15S	149.14g					
Total Wt.	2000g					ATC1
		ATC		ATC		230g
Batch		418g	313.5g	BSP Solution		23.0ml
BTZ		3.34g	2.51g			
P382(72.0%)		0.882g	0.662g			
CY27		0.242g	0.182g			
		Quart Jar				

## EASTMAN KODAK COMPANY

Date \_\_\_\_\_

cont. from p. 178

3 months  
Sms

T1

Coated 4/1/83 and processed 3 days later 2303/ 75g Gatem. 14um 6% AgX, 0.40g PMT/mole AgX, 9.16mole/lr AgX AgX add at 60C at 23.9% solids S-Au=3 1.0.015 Lot H Au for 454 S Au-3 added after Cool and before CBBA add Zn Br2 before PHP 1.0x P-382 used Kumar batch used at 2.53x BSP in TC studied at 2.00 ml/20g TC Toner Batch Method/ Permannox at end of make BSP added as a 4.00% solution separate from the Toners B79 only 3040-03-03 YS/TaO4 4 um 18.2g/25.0g Ag Dry at 190F STD, lot of PHP used 40 min mtr of ZnV used Flasher Solvent used for add solutions Methanol Solvent used for ZnV-43 and 3070 MEK/MEOH with ZnV-79 Citric Acid at 0.5ml to 25g Ag																					
Densi 1																					
KeyID	ZnV Type	Amount used	Solvent used	Phosphor used	Citric Acid used	BSP TC	ml Ag Gap	ml TC Gap	Ag d. ml, gm2	Phosphor d. ml, gm2	DMN	D-18	SPD02 44	AC-1	AC-2	AC-3	TC-1	TC-2	SPD01 44	SPD03 44	DMAX
1	ZnV-93	1.58x	MEOH			y	3.8	8	2.25		0.244	2.861	3.564	2.789	2.023		0.315	0.942	3.911		3.111
12	ZnV-93	1.58x	MEOH			y	3.8	8	2.3		0.252	2.986	3.552	2.994	2.304	0.667	0.318	0.971	3.89	2.2	3.2
8	ZnV-93	1.19x	MEOH			y	3.8	8	2.18		0.271	3.15	3.797	3.622	3.261	0.773	0.316	0.958	4.119	2.716	3.376
9	ZnV-93	1.19x	MEOH	18.2g		y	6.5	8.7		79	0.797	4.688	4.177	3.742	4.508	5.328	0.299	0.953	4.527	3.772	4.866
10	ZnV-93	1.19x	MEOH	18.2g	y		6.8	8.6		81	0.831	4.712	4.141	3.808	4.545	4.883	0.312	0.944	4.496	3.731	4.896
11	ZnV-93	1.19x	MEOH	18.2g			6.5	8.5		76	0.85	4.747	4.199	3.797	4.346	5.317	0.31	0.941	4.557	3.781	4.931
2	ZnV-7	2.53x	MEK/MEOH			y	3.8	8	2.26		0.254	2.964	3.724	3.276	2.338	0.804	0.295	0.991	4.03	2.291	3.237
3	ZnV-7	2.53x	MEK/MEOH	18.2g		y	6.5	8.7		82	0.691	4.609	4.095	3.8	4.458	4.591	0.385	0.879	4.435	3.671	4.841
4	ZnV-7	2.53x	MEOH			y	3.8	8	2.26		0.264	2.966	3.818	3.266	2.334	0.56	0.297	0.999	4.121	2.317	3.281
5	ZnV-7	2.53x	MEOH	18.2g		y	6.5	8.7		82	0.779	4.626	4.190	3.775	4.549	4.708	0.293	0.967	4.54	3.784	4.865
6	ZnV-7	2.53x	MEOH	18.2g	y		6.8	8.6		79	0.811	4.589	4.159	3.802	4.534	3.931	0.251	0.909	4.518	3.722	4.836
7	ZnV-7	2.53x	MEOH	18.2g			6.5	8.5		80	0.807	4.599	4.202	3.85	4.469	4.512	0.285	0.97	4.536	3.778	4.860
13	ZnV-79	1.19x	MEK/MEOH			y	3.8	8	2.2		0.257	2.965	3.838	3.336	2.55	0.522	0.303	1.014	4.142	2.325	3.249
14	ZnV-79	1.19x	MEK/MEOH	18.2g		y	6.5	8.7		78	0.745	4.661	4.252	3.941	4.638	4.867		0.967	4.578	3.847	4.876
ZnV-93 - carbonyl phenyl substituent = ZnV-8 ZnV-79 - carbonyl diphenyl substituent = ZnV-10																					
3 month aging																					
1	ZnV-93	1.58x	MEOH			y	3.8	8	2.25		0.295	2.81	3.663	2.292	1.795		0.365	0.831	4.075		3.14
12	ZnV-93	1.58x	MEOH			y	3.8	8	2.3		0.28	2.911	3.646	2.461	2.088	0.601	0.352	0.853	4.043	2.11	3.193
8	ZnV-93	1.19x	MEOH			y	3.8	8	2.18		0.304	3.025	3.859	2.973	2.701	0.438	0.339	0.872	4.249	2.215	3.207
9	ZnV-93	1.19x	MEOH	18.2g		y	6.5	8.7		79	1.111	4.665	4.263	3.468	4.138	3.872	0.3	0.863	4.674	3.816	4.867
10	ZnV-93	1.19x	MEOH	18.2g	y		6.8	8.6		81	0.962	4.609	4.269	3.457	4.273	3.925	0.337	0.824	4.675	3.814	4.867
11	ZnV-93	1.19x	MEOH	18.2g			6.5	8.5		76	1.18	4.659	4.312	3.45	4.185	3.359	0.362	0.745	4.7	3.828	4.86
2	ZnV-7	2.53x	MEK/MEOH			y	3.8	8	2.26		0.3	2.914	3.784	2.648	2.07	0.606	0.368	0.832	4.168	2.276	3.285
3	ZnV-7	2.53x	MEK/MEOH	18.2g		y	6.5	8.7		82	0.906	4.454	4.171	3.279	3.757	3.345	0.307	0.866	4.58	3.648	4.801
4	ZnV-7	2.53x	MEOH			y	3.8	8	2.26		0.31	2.863	3.825	2.649	1.875	0.592	0.34	0.869	4.2	2.22	3.202
5	ZnV-7	2.53x	MEOH	18.2g		y	6.5	8.7		82	1.034	4.463	4.228	3.274	3.618	3.229	0.382	0.747	4.64	3.686	4.836
6	ZnV-7	2.53x	MEOH	18.2g	y		6.8	8.6		79	0.898	4.22	4.259	3.225	3.821	2.55	0.31	0	4.777	3.675	4.846
7	ZnV-7	2.53x	MEOH	18.2g			6.5	8.5		80	1.148	4.485	4.244	3.447	3.832	2.448	0.683	0.734	4.688	3.674	4.85
13	ZnV-79	1.19x	MEK/MEOH			y	3.8	8	2.2		0.294	2.913	3.867	2.8	2.263	0.484	0.338	0.905	4.23	2.292	3.218
14	ZnV-79	1.19x	MEK/MEOH	18.2g		y	6.5	8.7		78	0.955	4.575	4.257	3.552	4.099	3.97	0.299	0.914	4.848	3.799	4.839
Change in Sens																					
1	ZnV-93	1.58x	MEOH			y	3.8	8	2.25		0.051	-0.051	0.099	-0.477	-0.228	#VALUE!	0.05	-0.111	0.164	#VALUE!	0.029
12	ZnV-93	1.58x	MEOH			y	3.8	8	2.3		0.028	-0.075	0.094	-0.533	-0.246	-0.068	0.034	-0.118	0.153	-0.09	-0.007
8	ZnV-93	1.19x	MEOH			y	3.8	8	2.18		0.033	-0.125	0.092	-0.649	-0.58	-0.335	0.023	-0.086	0.13	-0.503	-0.160
9	ZnV-93	1.19x	MEOH	18.2g		y	6.5	8.7		79	0.314	-0.023	0.106	-0.274	-0.368	-1.454	0.001	-0.09	0.147	0.044	0.007
10	ZnV-93	1.19x	MEOH	18.2g	y		6.8	8.6		81	0.131	-0.103	0.128	-0.351	-0.272	-0.958	0.025	-0.12	0.179	0.083	-0.029
11	ZnV-93	1.19x	MEOH	18.2g			6.5	8.5		76	0.33	-0.068	0.113	-0.347	-0.181	-1.958	0.052	-0.196	0.143	0.047	-0.053
2	ZnV-7	2.53x	MEK/MEOH			y	3.8	8	2.26		0.046	-0.07	0.06	-0.628	-0.258	0.002	0.073	-0.159	0.138	-0.015	0.028
3	ZnV-7	2.53x	MEK/MEOH	18.2g		y	6.5	8.7		82	0.215	-0.155	0.076	-0.521	-0.701	-1.246	-0.078	-0.013	0.145	-0.023	-0.04
4	ZnV-7	2.53x	MEOH			y	3.8	8	2.26		0.046	-0.103	0.007	-0.617	-0.459	0.032	0.043	-0.13	0.079	-0.097	-0.059
5	ZnV-7	2.53x	MEOH	18.2g		y	6.5	8.7		82	0.255	-0.143	0.03	-0.501	-0.931	-1.477	0.089	-0.22	0.11	-0.098	-0.029
6	ZnV-7	2.53x	MEOH	18.2g	y		6.8	8.6		79	0.085	-0.369	0.1	-0.577	-0.913	-1.38	0.059	-0.309	0.259	-0.046	0.011
7	ZnV-7	2.53x	MEOH	18.2g			6.5	8.5		80	0.341	-0.114	0.042	-0.403	-0.637	-2.068	0.398	-0.236	0.152	-0.104	-0.019
13	ZnV-79	1.19x	MEK/MEOH			y	3.8	8	2.2		0.027	-0.072	0.029	-0.536	-0.267	-0.038	0.035	-0.109	0.088	-0.033	-0.033
14	ZnV-79	1.19x	MEK/MEOH	18.2g		y	6.5	8.7		78	0.21	-0.086	0.015	-0.389	-0.537	-0.897	#VALUE!	-0.053	0.07	-0.048	-0.037

Signature

Shen M. Song

Witness

Takuzo Ishida

The foregoing disclosed to me on.